AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

Claims 1-5 (Cancelled).

6. (Previously Presented) An energy saving circuit that communicates with a receiver of a first physical layer of a first network device, comprising:

a sense circuit that communicates with said receiver and that generates a receive signal when connection activity that exceeds a first threshold is detected by said receiver, wherein said sense circuit enters a sense state and powers down said first physical layer when said sense circuit is reset,

wherein said energy saving circuit powers down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

an autonegotiation circuit that communicates with said sense circuit and that powers up said first physical layer and attempts to negotiate a connection with a second physical layer of a second network device when said sense circuit generates said receive signal; and

a first timer that generates a first signal after a first period and that is reset when said receive signal is generated by said sense circuit,

wherein if said first timer times out before autonegotiation is complete, said sense circuit powers down said first physical layer and returns to said sense state.

7. (Previously Presented) The energy saving circuit of claim 6 further comprising a link circuit that triggers a link state when autonegotiation is complete and a link with said second physical layer is established.

8. (Original) The energy saving circuit of claim 7 wherein said link circuit generates a link lost signal when said link is lost.

9. (Previously Presented) An energy saving circuit that communicates with a receiver of a first physical layer of a first network device, comprising:

a sense circuit that communicates with said receiver and that generates a receive signal when connection activity that exceeds a first threshold is detected by said receiver, wherein said sense circuit enters a sense state and powers down said first physical layer when said sense circuit is reset, and

wherein said energy saving circuit powers down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer; and

an autonegotiation circuit that communicates with said sense circuit and that powers up said first physical layer and attempts to negotiate a connection with a second physical layer of a second network device when said sense circuit generates said receive signal, and wherein said sense circuit includes a timer that communicates

with a transmitter and that is reset when said receive signal is generated by said sense circuit.

10. (Previously Presented) The energy saving circuit of claim 9 wherein when said timer times out, said transmitter is turned on and generates a pulse.

11. (Original) The energy saving circuit of claim 10 wherein after said transmitter generates said pulse, said transmitter is turned off and said sense circuit returns to said sense state.

12. (Previously Presented) The energy saving circuit of claim 11 wherein said timer has a second period that is longer than a period of fast link pulse bursts.

13. (Previously Presented) An energy saving circuit that communicates with a receiver of a first physical layer of a first network device, comprising:

a sense circuit that communicates with said receiver and that generates a receive signal when connection activity that exceeds a first threshold is detected by said receiver,

wherein said energy saving circuit powers down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer; and

a switching circuit that senses an MDI/MDIX connection configuration of a second physical layer and that adjusts an MDI/MDIX connection configuration of said

first physical layer to match said MDI/MDIX connection configuration of said second physical layer.

14. (Previously Presented) The energy saving circuit of claim 6 further comprising a status indicator that generates a status signal to notify said first network device of a power status of said first physical layer.

Claims 15-34 (Cancelled).

35. (Previously Presented) An energy saving circuit that communicates with a receiver of a first physical layer of a first network device, comprising:

sensing means for communicating with said receiver and for generating a receive signal when connection activity that exceeds a first threshold is detected by said receiver, wherein said sensing means enters a sense state and powers down said first physical layer when said sensing means is reset,

wherein said energy saving circuit powers down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

autonegotiation means for communicating with said sense circuit and for powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device when said sensing means generates said receive signal; and

first timing means for generating a first signal after a first period, wherein said first timing means is reset when said receive signal is generated by said sensing means,

wherein if said first timing means times out before autonegotiation is complete, said sensing means powers down said first physical layer and returns to said sense state.

36. (Previously Presented) The energy saving circuit of claim 35 further comprising link means for triggering a link state when autonegotiation is complete and a link with said second physical layer is established.

37. (Original) The energy saving circuit of claim 36 wherein said link means generates a link lost signal when said link is lost.

38. (Previously Presented) An energy saving circuit that communicates with a receiver of a first physical layer of a first network device, comprising:

sensing means for communicating with said receiver and for generating a receive signal when connection activity that exceeds a first threshold is detected by said receiver, wherein said sensing means enters a sense state and powers down said first physical layer when said sensing means is reset,

wherein said energy saving circuit powers down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

autonegotiation means for communicating with said sense circuit and for powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device when said sensing means generates said receive signal,; and

timing means for communicating with a transmitter and that is reset when said receive signal is generated by said sensing means.

39. (Previously Presented) The energy saving circuit of claim 38 wherein when said timing means times out, said transmitter is turned on and generates a pulse.

40. (Original) The energy saving circuit of claim 39 wherein after said transmitter generates said pulse, said transmitter is turned off and said sensing means returns to said sense state.

41. (Previously Presented) The energy saving circuit of claim 40 wherein said timing means has a second period that is longer than a period of fast link pulse bursts.

42. (Previously Presented) An energy saving circuit that communicates with a receiver of a first physical layer of a first network device, comprising:

sensing means for communicating with said receiver and for generating a receive signal when connection activity that exceeds a first threshold is detected by said receiver;

wherein said energy saving circuit powers down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer; and

switching means for sensing an MDI/MDIX connection configuration of a second physical layer and for adjusting an MDI/MDIX connection configuration of said first physical layer to match said MDI/MDIX connection configuration of said second physical layer.

43. (Previously Presented) The energy saving circuit of claim 35 further comprising status indicator means for generating a status signal to notify said first network device of a power status of said first physical layer.

Claims 44-63 (Cancelled).

64. (Previously Presented) A method for saving energy in a first physical layer of a first network device, comprising:

generating a receive signal using a sense circuit when connection activity that exceeds a first threshold is detected by a receiver;

powering down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device using an autonegotiation circuit when said sense circuit generates said receive signal;

entering a sense state of said sense circuit;

powering down said first physical layer when said sense circuit is reset;

generating a first signal that resets said sense circuit after a first period using a first timer;

resetting said first timer when said receive signal is generated by said sense circuit;

powering down said first physical layer using said sense circuit if said first timer times out before autonegotiation is complete; and

returning said sense circuit to said sense state.

65. (Previously Presented) The method of claim 64 further comprising triggering a link state when autonegotiation is complete and a link with said second physical layer is established.

66. (Original) The method of claim 65 further comprising generating a link lost signal when said link is lost.

67. (Previously Presented) A method for saving energy in a first physical layer of a first network device, comprising:

generating a receive signal using a sense circuit when connection activity that exceeds a first threshold is detected by a receiver;

powering down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device using an autonegotiation circuit when said sense circuit generates said receive signal;

entering a sense state of said sense circuit;

powering down said first physical layer when said sense circuit is reset,

wherein said sense circuit includes ~~second~~ a timer for communicating with a transmitter and that is reset when said receive signal is generated.

68. (Previously Presented) The method of claim 67 further comprising turning on said transmitter and generating a pulse when said timer times out.

69. (Original) The method of claim 68 further comprising turning off said transmitter and transitioning said sense circuit to said sense state after said transmitter generates said pulse.

70. (Previously Presented) The method of claim 69 wherein said timer has a second period that is longer than a period of fast link pulse bursts.

71. (Previously Presented) A method for saving energy in a first physical layer of a first network device, comprising:

generating a receive signal using a sense circuit when connection activity that exceeds a first threshold is detected by a receiver; and

powering down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device using an autonegotiation circuit when said sense circuit generates said receive signal;

sensing an MDI/MDIX connection configuration of said second physical layer; and

adjusting an MDI/MDIX connection configuration of said first physical layer to match said MDI/MDIX connection configuration of said second physical layer.

72. (Previously Presented) The method of claim 64 further comprising generating a status signal to notify said first network device of a power status of said first physical layer.

Claims 73-121 (Cancelled).

122. (Previously Presented) A software method for saving energy in a first physical layer of a first network device, comprising:

generating a receive signal using a sense circuit when connection activity that exceeds a first threshold is detected by a receiver;

powering down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device using an autonegotiation circuit when said sense circuit generates said receive signal;

entering a sense state of said sense circuit;

powering down said first physical layer when said sense circuit is reset;

generating a first signal that resets said sense circuit after a first period using a first timer;

resetting said first timer when said receive signal is generated by said sense circuit;

powering down said first physical layer using said sense circuit if said first timer times out before autonegotiation is complete; and

returning said sense circuit to said sense state.

123. (Previously Presented) The software method of claim 122 further comprising triggering a link state when autonegotiation is complete and a link with said second physical layer is established.

124. (Original) The software method of claim 123 further comprising generating a link lost signal when said link is lost.

125. (Currently Amended) A software method for saving energy in a first physical layer of a first network device, comprising:

generating a receive signal using a sense circuit when connection activity that exceeds a first threshold is detected by a receiver;

powering down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device using an autonegotiation circuit when said sense circuit generates said receive signal;

entering a sense state of said sense circuit;

powering down said first physical layer when said sense circuit is reset,

wherein said sense circuit includes second timer for communicating with a transmitter and that is reset when said receive signal is generated.

126. (Original) The software method of claim 125 further comprising turning on said transmitter and generating a pulse when said second timer times out.

127. (Original) The software method of claim 126 further comprising turning off said transmitter and transitioning said sense circuit to said sense state after said transmitter generates said pulse.

128. (Original) The software method of claim 127 wherein said second timer has a second period that is longer than a period of fast link pulse bursts.

129. (Previously Presented) A software method for saving energy in a first physical layer of a first network device, comprising:

generating a receive signal using a sense circuit when connection activity that exceeds a first threshold is detected by a receiver; and

powering down said first physical layer when said receiver does not detect said connection activity for a first predetermined period to reduce power consumption of said first physical layer;

powering up said first physical layer and attempting to negotiate a connection with a second physical layer of a second network device using an autonegotiation circuit when said sense circuit generates said receive signal;

sensing an MDI/MDIX connection configuration of said second physical layer; and

adjusting an MDI/MDIX connection configuration of said first physical layer to said MDI/MDIX connection configuration of said second physical layer.

130. (Previously Presented) The software method of claim 122 further comprising generating a status signal to notify said first network device of a power status of said first physical layer.

Claims 131-145 (Cancelled).

Please cancel Claims 146-166.